A fuel cell system includes a fuel cell (1) having a water passage and passage for gas required for power generation, a first protection device (5, 10) which prevents freezing of water in the fuel cell by maintaining the temperature of the fuel cell (1), and a second protection device (11, 12) which prevents freezing of water in the fuel cell by discharging the water in the fuel cell (1). A controller (50) selects one of the first protection device (5, 10) and the second protection device (11, 12) as the protection device to be used when the fuel cell (1) has stopped, and the fuel cell (1) is protected from freezing of water by operating the selected protection device.